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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/597,466	05/30/2007	Anthony Michael Chandler	1821-02600	1516

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EXAMINER	
CUTLIFF, YATE KAI RENE	
ART UNIT	**PAPER NUMBER**
1621	

NOTIFICATION DATE	DELIVERY MODE
06/05/2008	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)	
	10/597,466	CHANDLER ET AL.	
	Examiner	Art Unit	
	YATE K. CUTLIFF	1621	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *06 February 2008*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,4 and 6-11* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,4 and 6-11* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *26 July 2006* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *2/6/2008*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

1. Claims 1 and 4 are objected to because of the following informalities: In claim 1, line 1 the parenthesis around “including fatty acids” is improper. In claim 4 line 1 the claims improperly depends upon canceled claim 3; and the term "Perna Canaliculus" is redundant. Appropriate correction is required.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

4. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was

not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5. Claims 1, 4, 6-11 rejected under 35 U.S.C. 103(a) as being unpatentable over McFarlane et al. (US 4,455,298) in view of Prevost et al. (US 56,707,673) and Beaudoin et al. (WO 00/23446)

6. Applicant claims cover, inter alia, a process for tile extraction of lipids (including fatty acids) from Perna Canaliculus solids comprising mixing said solids with a solvent capable of dissolving lipids therefrom to form a solvent extract, removing solvent from said extract by nanofiltration to produce a concentrated lipid extract and recovered solvent, and removing further solvent from the concentrated extract to leave extracted lipids, wherein the solvent is selected from the group consisting of acetone, hexane and ethyl acetate. Independent claims identify the physical state of the Perna Canaliculus start material; the pore size of the nanofilter; and the process for removing any remaining solvent after filtration.

Mc Farlane et al. discloses a solvent extraction process for extracting lipids from Perna Canaliculus that uses ethyl acetate. Further, the Perna Canaliculus used is powder formed from the freeze-dried flesh or the gonads. The organic solvent extract is dried before being evaporated. (see column 2, lines 16-31).

The McFarlane et al reference fails teach the use of nanofiltration of the solvent extract, further removal of solvent in the organic solvent extract, the use of evaporation

as ambient temperature or the use of evaporation at temperatures at or below 20°C, and the use of hexane or acetone as extracting solvents.

Prevost et al. discloses a process for extracting lipids from animal matter involving the steps of a) extracting with a solvent, b) filtering the extract by nanofiltration, followed by c) recovering solvent and an extract rich retentate, and d) the lipid rich retentate stream is further treated by conventional means to recover any remaining solvent. (see column 3, lines 62 - 67, & column 4, lines 1-5, and 9-21). One means of removing any remaining solvent from the solvent extract is with a vacuum flash unit. (see column 9, lines 39-45).

The Mc Farlane et al. and Prevost reference fails to teach the claimed solvents acetone and hexane, the cut off for the nanofiltration material, or the use of evaporation as ambient temperature or the use of evaporation at temperatures at or below 20°C

However, Prevost et al. discloses that at the time of their invention hexane was the most commonly commercially used solvent in lipid extraction. (see column 2, line 1). Further, Prevost et al. at column 9 lines 1- 5, states that the pore size of the filtration membrane is dependant on the extractive and process solvent used in the process, the operating conditions used in the separation, as well as the volume of miscella that is to be treated.

Beaudoin et al. teaches a lipid extraction process that uses both acetone and ethyl acetate to extract lipid material from marine and aquatic animals. (see page 5).

With regard to the features of dependent claims 8-11, since evaporation is a process known to be used for the extraction process as mentioned by McFarlane et al., the these limitations are deemed to be obvious absent a showing of unexpected results.

A reference is good not only for what it teaches by direct anticipation but also for what one of ordinary skill in the art might reasonably infer from the teachings. *(In reOpprecht* 12 USPQ 2d 1235, 1236 (Fed Cir. 1989); *In re Bode* 193 USPQ 12 (CCPA) 1976). In light of the forgoing discussion, the Examiner concludes that the subject matter defined by the instant claims would have been obvious within the meaning of 35USC 103(a). From the teachings of the references, it is apparent that one of ordinary skill in the art would have had a reasonable expectation of success in producing the claimed invention. Therefore, the invention as a whole was *prima facie* obvious to one of ordinary skill in the art at the time the invention was made, as evidenced by the references, especially in the absence of evidence to the contrary.

Further, it would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to extract lipids from Perna Canaliculus as suggested by McFarlane et al., in view of the process of Prevost et al. which uses nanofiltration; or substitute hexane in the solvent extraction process of McFarlane et al. in view of the process of Prevost et al., since both Prevost et al. and Beaudoin et al. disclose that hexane is a known solvent for extracting lipids from marine animals; or in view of Beaudoin et al. substitute acetone in the process of McFarlane et al. in view of the process of Prevost et al. to produce the predictable results of extracting lipids from marine animal tissue, specifically Perna Canaliculus.

Therefore, all the claimed elements were known in the prior art and one skilled in the art could have combined the elements as clamed by known methods with no change in their respective functions, and the combination would have yielded predictable results to one of ordinary skill in the art at the time of the invention. KSR International Co. v. Teleflex Inc., 550 U.S. ___, 82 USPQ2d 1385 (U.S. 2007).

Response to Amendment

7. The amendment to claims 1 and 4 of February 6, 2008 are acknowledged and entered.

Response to Arguments

8. Applicant's arguments with respect to claims 1, 4 and 6-11 have been considered but are moot in view of the new ground(s) of rejection above.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to YATE K. CUTLIFF whose telephone number is (571)272-9067. The examiner can normally be reached on M-TH 8:30 a.m. - 5:00 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Yvonne Eyler can be reached on (571) 272 - 0871. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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